WHAT IS CLAIMED IS:

1. A battery case comprising:

a base portion having a bottom and side walls forming an interior compartment for holding a battery cell and internal structural components; and

a cover portion engaging the side walls for enclosing the compartment,

wherein the base portion and cover portion are formed of a flame retardant polymeric composition comprising a base polymer and a fire resistant additive, and

wherein at least one of the base portion and the cover portion includes a vent hole through which evolved gases are permitted to escape.

2. The battery case of claim 1 wherein the base polymer comprises polyphenylene oxide, polypropylene, and 0-60 wt.% glass fiber.

3. The battery case of claim 1 wherein the base polymer comprises polyphenylene oxide, polypropylene, and 20-45 wt.% glass fiber.

4. The battery case of claim 1 wherein the base polymer is a thermoplastic polymer selected from the group consisting of: polyethylene, polypropylene, nylon, polystyrene, a styrene-acrylonitrile copolymer, and a butadiene-styrene-acrylonitrile terpolymer.

5. The battery case of claim 1 wherein the base polymer is a thermoset polymer selected from the group consisting of a polyurethane, rubber, a phenolic and an epoxy.

6. The battery case of claim 1 wherein the flame retardant polymeric composition comprises 10-50 wt.% of the fire resistant additive.

7. The battery case of claim 1 wherein the fire resistant additive includes intercalated graphite.

8. The battery case of claim 1 wherein the fire resistant additive comprises, on the basis of 100 parts by weight blended mixture:

20-45 parts of a polymeric binder comprising high density polyethylene having a density in the range of 0.940-0.970 g/cm^3 and an α-olefin-containing copolymer having a density less than the density of the high density polyethylene;

5-25 parts of a nitrogenous gas-generating agent selected from the group consisting of amines, ureas, guanidines, guanamines, s-triazines, amino acids, salts thereof, and mixtures thereof, wherein the salts are selected from the group consisting of phosphates, phosphonates, phosphinates, borates, cyanurates, sulfates and mixtures thereof;

10-35 parts of a water vapor-generating agent;

1-5 parts of an antioxidant; and

0-15 parts of a reinforcing agent,

wherein the additive is essentially halogen-free.

9. The battery case of claim 8 wherein the α-olefin-containing copolymer is a copolymer of ethylene with one of butene, hexene and octene having a density in the range of 0.870-0.910 g/cm^3.

10. The battery case of claim 1 wherein the fire resistant additive comprises, on the basis of 100 parts by weight blended mixture:

20-45 parts of a polymeric binder comprising high density polyethylene having a density in the range of 0.940-0.970 g/cm^3 and an α-olefin-containing copolymer having a density in the range of 0.870-0.910 g/cm^3, wherein 20-45 parts of the blended mixture is the high density polyethylene and 0-15 parts of the blended mixture is the α-olefin-containing copolymer;

15-25 parts of a nitrogenous gas-generating agent selected from the group consisting of an ammonium salt, a melamine salt, or mixtures thereof, wherein the salts are selected from the group consisting of phosphates, phosphonates, phosphinates, borates, cyanurates, sulfates and mixtures thereof;

20-30 parts of a water vapor-generating agent selected from the group consisting of hydrated magnesia, hydrated alumina, intercalated graphite, and mixtures thereof;

1-5 parts of an antioxidant selected from the group consisting of distearylthiodipropionate, a hindered phenol, and mixtures thereof; and

3-10 parts of a reinforcing agent selected from the group consisting of glass fibers, mica, titanium oxide and mixtures thereof,

wherein the additive is essentially halogen-free.

11. The battery case of claim 1 wherein the fire resistant additive includes antimony oxide.

12. The battery case of claim 11 wherein the fire resistant additive includes a chlorinated paraffin and chlorinated polyethylene.

13. The battery case of claim 1 further comprising at least one internal structural component in the interior compartment that is made of the flame retardant polymeric composition.

14. The battery case of claim 1 wherein the cover portion includes a plurality of the vent holes.

15. A battery case comprising:

a base portion having a bottom and side walls forming an interior compartment for holding a battery cell and internal structural components; and

a cover portion engaging the side walls for enclosing the compartment,

wherein the base portion and cover portion are formed of a flame retardant polymeric composition comprising a base polymer and a fire resistant additive, wherein the fire resistant additive comprises, on the basis of 100 parts by weight blended mixture:

20-45 parts of a polymeric binder comprising high density polyethylene having a density in the range of 0.940-0.970 g/cm^3 and an α-olefin-containing copolymer having a density less than the density of the high density polyethylene;

5-25 parts of a nitrogenous gas-generating agent selected from the group consisting of amines, ureas, guanidines, guanamines, s-triazines, amino acids, salts thereof, and mixtures thereof, wherein the salts are selected from the group consisting of phosphates, phosphonates, phosphinates, borates, cyanurates, sulfates and mixtures thereof;

10-35 parts of a water vapor-generating agent;

1-5 parts of an antioxidant; and

0-15 parts of a reinforcing agent,

wherein the flame retardant polymeric composition is essentially halogen-free.

16. The battery case of claim 15 wherein the α-olefin-containing copolymer is a copolymer of ethylene with one of butene, hexene and octene having a density in the range of 0.870-0.910 g/cm^3.

17. The battery case of claim 15 wherein the α-olefin-containing copolymer is a linear low density ethylene octene copolymer having a density in the range of 0.870-0.910 g/cm^3.

18. The battery case of claim 15 wherein the additive comprises 20-45 parts of the high density polyethylene and 0-15 parts of the α-olefin-containing copolymer for a total of 20-45 parts polymeric binder.

19. The battery case of claim 15 wherein nitrogenous gas-generating agent is an ammonium salt, a melamine salt, or a mixture thereof.

20. The battery case of claim 15 wherein the nitrogenous gas-generating agent is selected from the group consisting of: melamine phosphates, melamine polyphosphates, melamine pyrophosphates, melamine cyanurates, ammonium phosphates, ammonium polyphosphates, ammonium pyrophosphates, ammonium cyanurates, and mixtures thereof.

21. The battery case of claim 15 wherein the water vapor-generating agent is selected from the group consisting of: hydrated magnesia, hydrated alumina, intercalated graphite, and mixtures thereof.

22. The battery case of claim 15 wherein the antioxidant is selected from the group consisting of: distearylthiodipropionate, a hindered phenol, and mixtures thereof.

23. The battery case of claim 15 wherein the reinforcing agent is selected from the group consisting of: glass fibers, mica, titanium oxide and mixtures thereof.

24. The battery case of claim 15 wherein the base polymer comprises polyphenylene oxide, polypropylene, and 0-60 wt.% glass fiber.

25. The battery case of claim 15 wherein the base polymer comprises polyphenylene oxide, polypropylene, and 20-45 wt.% glass fiber.

26. The battery case of claim 15 wherein the flame retardant polymeric composition comprises 10-50 wt.% of the fire resistant additive.

27. The battery case of claim 15 wherein the fire resistant additive includes intercalated graphite.

28. The battery case of claim 15 further comprising at least one internal structural component in the interior compartment that is made of the flame retardant polymeric composition.

29. The battery case of claim 15 wherein the cover portion includes a plurality of the vent holes through which evolved gases are permitted to escape.

30. A battery case comprising:

a base portion having a bottom and side walls forming an interior compartment for holding a battery cell and internal structural components; and

a cover portion engaging the side walls for enclosing the compartment,

wherein the base portion and cover portion are formed of a flame retardant polymeric composition comprising a base polymer and a fire resistant additive, wherein the base polymer comprises polyphenylene oxide, polypropylene, and 0-60 wt.% glass fiber.

31. The battery case of claim 30 wherein the base polymer comprises 20-45 wt.% glass fiber.

32. The battery case of claim 30 wherein the flame retardant polymeric composition comprises 10-50 wt.% of the fire resistant additive.

33. The battery case of claim 30 further comprising at least one internal structural component in the interior compartment that is made of the flame retardant polymeric composition.

34. The battery case of claim 30 wherein the cover portion includes a plurality of the vent holes through which evolved gases are permitted to escape.

35. The battery case of claim 30 wherein the fire resistant additive comprises, on the basis of 100 parts by weight blended mixture:

20-45 parts of a polymeric binder comprising high density polyethylene having a density in the range of 0.940-0.970 g/cm^3 and an α-olefin-containing copolymer having a density in the range of 0.870-0.910 g/cm^3, wherein 20-45 parts of the blended mixture is the high density polyethylene and 0-15 parts of the blended mixture is the α-olefin-containing copolymer;

15-25 parts of a nitrogenous gas-generating agent selected from the group consisting of an ammonium salt, a melamine salt, or mixtures thereof, wherein the salts are selected from the group consisting of phosphates, phosphonates, phosphinates, borates, cyanurates, sulfates and mixtures thereof;

20-30 parts of a water vapor-generating agent selected from the group consisting of hydrated magnesia, hydrated alumina, intercalated graphite, and mixtures thereof;

1-5 parts of an antioxidant selected from the group consisting of distearylthiodipropionate, a hindered phenol, and mixtures thereof; and

3-10 parts of a reinforcing agent selected from the group consisting of glass fibers, mica, titanium oxide and mixtures thereof,

wherein the additive is essentially halogen-free.

36. The battery case of claim 35 wherein at least one of the base portion and the cover portion includes a vent hole through which evolved gases are permitted to escape.

37. The battery case of claim 35 wherein the cover portion includes a plurality of the vent holes through which evolved gases are permitted to escape.